TriQuint SEMICONDUCTOR

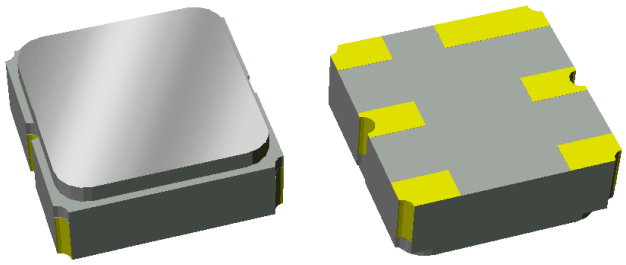
Data Sheet

Part Number 857191

810 MHz SAW Filter

Features

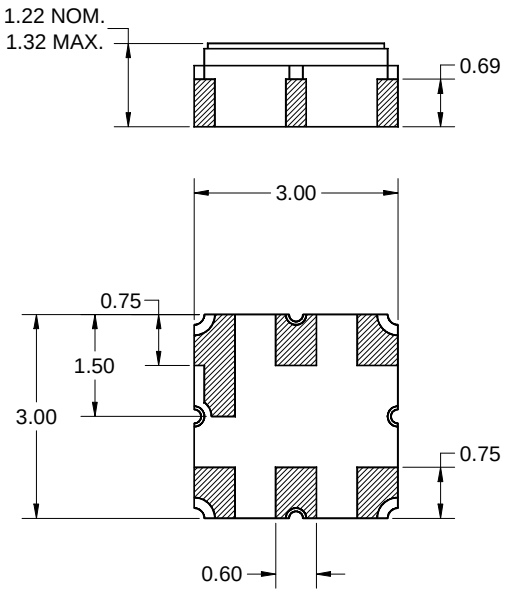
- Usable bandwidth 5 MHz
- High attenuation
- No impedance matching required for operation at 50 Ω
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free



Package

Surface Mount 3.00 x 3.00 x 1.22 mm

SMP-12

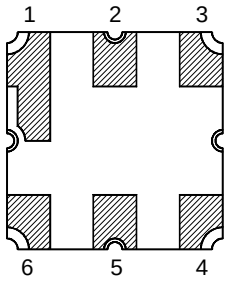


Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width ±0.10mm

Body: Al_2O_3 ceramic
Lid: *Kovar*, *Ni* plated
Terminations: *Au* plating 0.5 - 1.0µm, over a 2 - 6µm *Ni* plating

Pin Configuration

Bottom View



Single-ended Configuration

Pin No.	Description
2	Input
5	Output
1,3,4,6	Case ground

Electrical Specifications [1]

Operating Temperature Range: [2] -55 to +85 °C

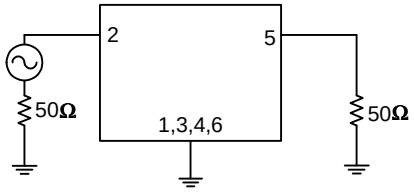
Parameter [3]	Minimum	Typical [4]	Maximum	Unit
Center Frequency	-	810	-	MHz
Maximum Insertion Loss				
807.5 - 812.5 MHz	-	4.6	5.5	dB
Amplitude Ripple [5]				
807.5 - 812.5 MHz	-	0.7	1.0	dB
Group Delay Variation				
807.5 - 812.5 MHz	-	88	150	ns
Absolute Attenuation				
10 - 770 MHz	50	54	-	dB
770 - 793 MHz	30	48	-	dB
793 - 795 MHz	20	41	-	dB
795 - 797 MHz	10	32	-	dB
823 - 825 MHz	10	32	-	dB
825 - 827 MHz	20	41	-	dB
827 - 850 MHz	30	48	-	dB
850 - 1500 MHz	50	54	-	dB
1500 - 2500 MHz	35	38	-	dB
Source Impedance [6]	-	50	-	Ω
Load Impedance [6]	-	50	-	Ω

Notes:

1. All specifications are based on the TriQuint test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Typical values are based on average measurements at room temperature
5. Amplitude ripple is defined as the worst case difference between the peak and adjacent valley within the defined frequency points
6. This is the optimum impedance in order to achieve the performance shown

Test Circuit:

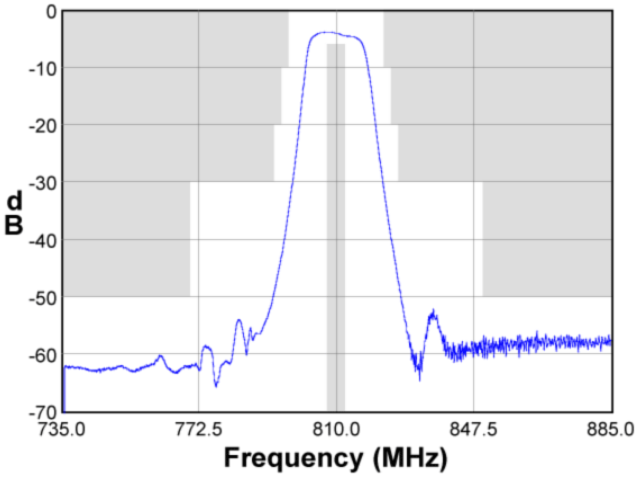
50 Ω
Single-ended
No impedance matching
required



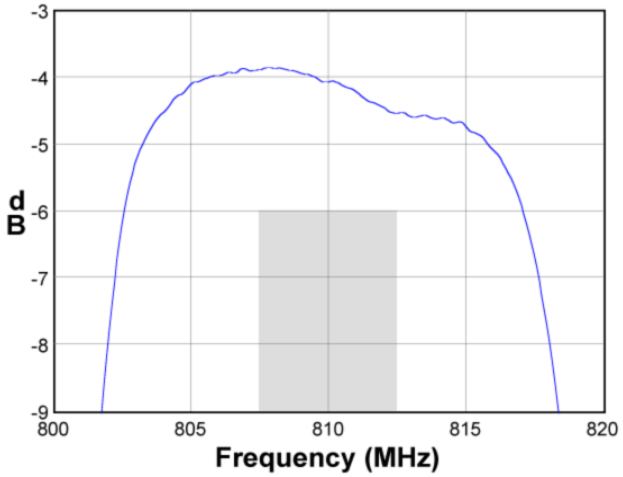
50 Ω
Single-ended
No impedance matching
required

Typical Performance (at room temperature)

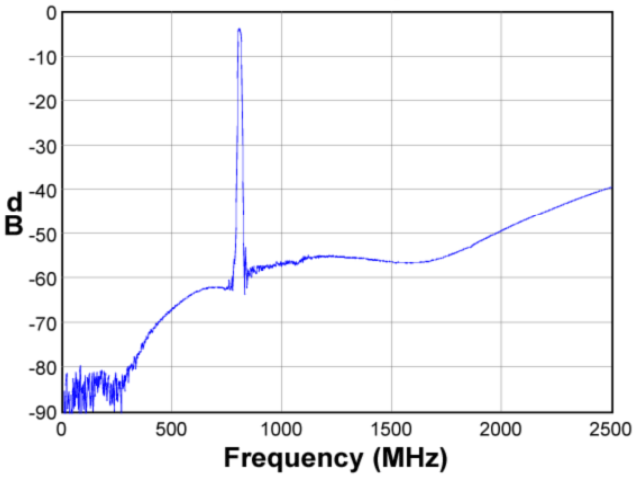
Frequency Response



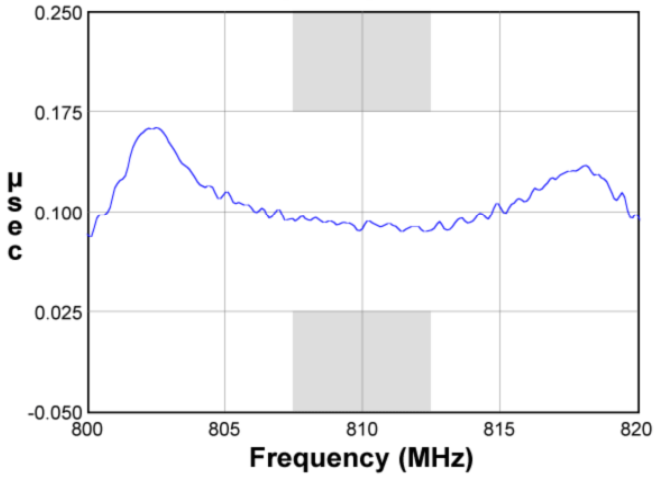
Passband Response



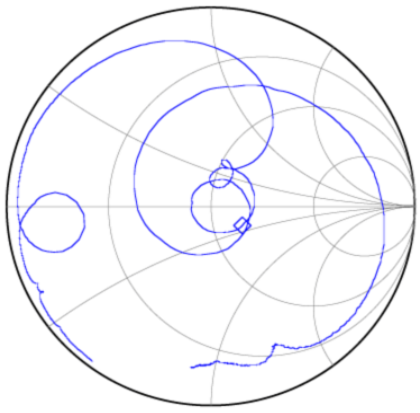
Wideband Response



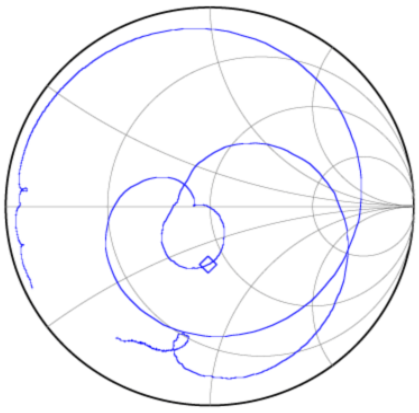
Group Delay Variation



Input Smith Chart



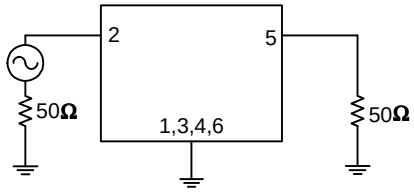
Output Smith Chart



Part Number 857191
810 MHz SAW Filter

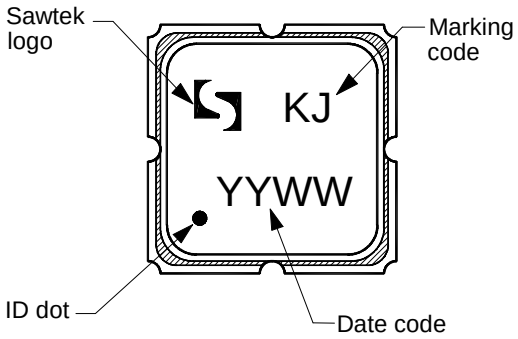
Matching Schematics

50 Ω
Single-ended
No impedance
matching required



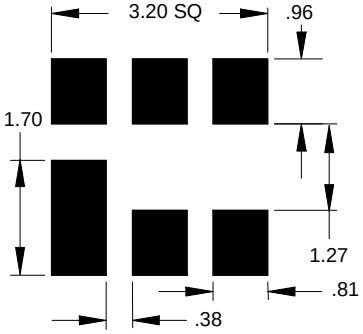
50 Ω
Single-ended
No impedance matching
required

Marking



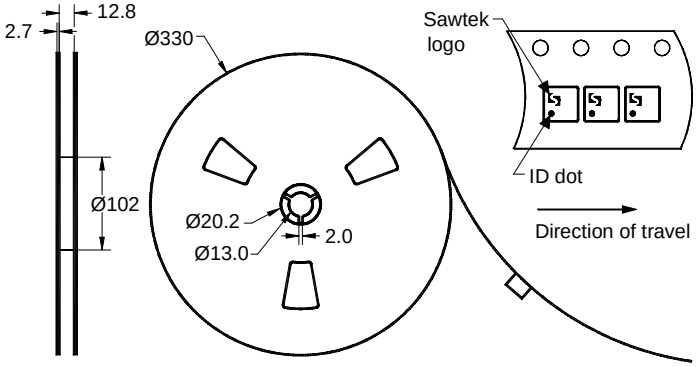
The date code consists of: YY = last 2 digits of year,
WW = work week

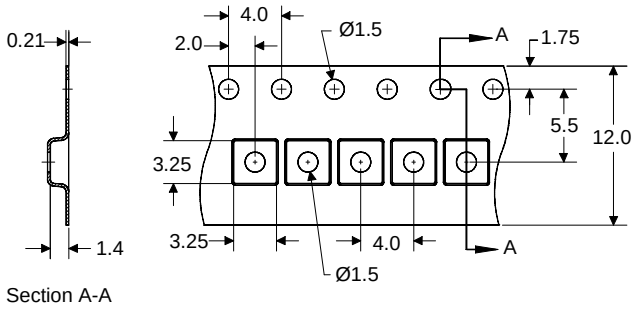
PCB Footprint



This footprint represents a recommendation only
Dimensions shown are nominal in millimeters

Tape and Reel





Dimensions shown are nominal in millimeters
Packaging quantity: 5000 units/reel

TriQuint SEMICONDUCTOR

Data Sheet

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810 MHz SAW Filter

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-55	+85	°C
Storage Temperature Range	T_{stg}	-55	+85	°C

Important Notes

Warnings

- Electrostatic Sensitive Device (ESD)
- Avoid ultrasonic exposure

RoHS Compliance

- This product complies with EU directive 2002/95/EC (RoHS)

Solderability

- Compatible with JESD22-B102, Pb-free process, 260C peak reflow temperature (see soldering profile)

Links to Additional Technical Information

PCB Layout Tips | Qualification Flowchart | Soldering Profile

S-Parameters | RoHS Information | Other Technical Information

TriQuint's liability is limited only to the Surface Acoustic Wave (SAW) component(s) described in this data sheet. TriQuint does not accept any liability for applications, processes, circuits or assemblies, which are implemented using any TriQuint component described in this data sheet.

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